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Chen-Ho Lee

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EXAMINER

WORKU, NEGUSSIE

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/065,611	<b>Applicant(s)</b> LEE, CHEN-HO	
	<b>Examiner</b> NEGUSSIE WORKU	<b>Art Unit</b> 2625	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-15 and 17-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-15 and 29-40 is/are allowed.
- 6) ☒ Claim(s) 2-7 and 17-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/22/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Response to the arguments**

1. This Office action is in response to the amendment filed on 01/22/08, in which, claims 1-7, 9-15 and 17-40 are pending, and claims 8 and 16 have been cancelled.

Applicant's arguments filed 01/22/08 have been fully considered but they are not persuasive. With respect to applicant's comments about the last interview with regard of examiner admission of withdrawal of the Office action is unpersuasive. At the time of the discussion the examiner had considered applicant's comments regarding the invention and the prior art, which was a help full discussion for further review of the application when a response will be received.

However, there was no discussion or agreement of the withdrawal of the Office action at the time, and therefore, examiner respectfully disagree with applicant's characterization of the interview.

Therefore, after the office action is carefully reviewed in view of applicant's comments examiner has maintained the Office action and applicant's arguments are not found persuasive for the reasons given below.

Regarding claim 1, the Applicant alleged that the combination of the references cite fails to show or suggest, "adjusting a period of the shift signal based at least in part on a speed of reading the data by the computer".

In response, the Examiner respectfully disagrees because the test for obviousness is not whether the features of a secondary reference may be bodily

incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, the Examiner asserts that the combination of Shinsky et al. (USP 6285398), in view of Makino (USP 4,786,933), when considered as a whole clearly teaches that "adjusting a period of the shift signal based at least in part on a speed of reading the data by the computer" are well-known in the art at the time of the invention was made. In particular, Shinsky '398' clearly suggests adjusting a period of the shift signal based at least in part on a speed of reading the pixel data of the scan line by the computer, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and analog digital converter circuit 16 of fig 1, in connection with CPU 42 of fig 3, via interface 200 of fig 3, communicate with image scanner 100 of fig 3, where a data is transferred between the two devices [scanner and the host] over a transfer interface port, so as there is a transfer signal can be performed col.1, lines 36-40).

In view of the above, having the system of Shinsky "398' and then given the well-established teaching of Makino '933', the Examiner asserts that It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 17-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinsky et al. (USP 6285398), in view of Makino (USP 4,786,933).

With respect to claim 1, Shinsky (398) teaches a method of transferring image information from a scanning apparatus (a method of scanning image by scanner 10 of fig 1, and transferring to host computer 20 of fig 3), the method comprising:

Adjusting a period of the shift signal based at least in part on a speed of reading the pixel data of the scan line by the computer, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and analog digital converter circuit 16 of fig 1), wherein data for all of the transfer signal, scan line during the period of the transfer signal, (CPU 42 of fig 3, via interface 200 of fig 3, communicate with image scanner 100 of fig 3, where a data is transferred between the two devices [scanner and the host] over a transfer interface port, so as there is a transfer signal, col.1, lines 36-40).

Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device (CCD image sensor 5 of fig 2) in the scanning apparatus, (image signal forming 12 of fig 1) the image extraction device (CCD image sensor 5 of fig 2) coupled to a computer (micro processor 10 of fig 2, is coupled to image sensor 5, col.2, lines 20-30); transmitting data for each pixel of a scan line to the computer via a shift signal (shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shift register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting

data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 2, Shinsky teaches the method (fig 3), further comprising adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 3, Shinsky teaches the method (fig 3), further comprising adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 4, Shinsky teaches the method (fig 3), the method according to claim 1, wherein the period of the transfer signal comprises a constant period of time, (brightness and contrast controller 322 of fig 4A).

With respect to claim 5, Shinsky teaches the method (fig 3) wherein the exposure time is variable (brightness and contrast controller 322 of fig 4A).

With respect to claim 6, Shinsky teaches the method (fig 3) wherein the dumping (shifting) signal is enabled at a high level, (the level of the brightness and contrast of the image has been controlled by controller 322 of fig 4A).

With respect to claim 7, Shinsky teaches the method (fig 3), wherein the image extraction device (100 of fig 3) includes a charge-coupled device (CCD 12 of fig 3).

With respect to claim 17, Shinsky (398) teaches a method of transferring image information from a scanning apparatus (a method of scanning image by scanner 10 of fig 1, and transferring to host computer 20 of fig 3), the method (as shown in fig 4A) Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting a shift signal from the image extraction device to a processor during the exposure time without storing the shift signal in a memory buffer



wherein the shift signal comprises pixel data for each pixel in a scan line; where the period of the shift signal is variable and responsive to a reading speed of the computer.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device (CCD image sensor 5 of fig 2) in the scanning apparatus, (image signal forming 12 of fig 1) the image extraction device (CCD image sensor 5 of fig 2) coupled to a computer (micro processor 10 of fig 2, is coupled to image sensor 5, col.2, lines 20-30); transmitting data for each pixel of a scan line to the computer via a shift signal (shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus where the period of the shift signal is variable and responsive to a reading speed of the computer, (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shift register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of

Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 18, Shinsky teaches the method (as shown fig 4), wherein the shift signal comprises one or more reading times and one or more waiting times (the system of fig 4, comprises reading and waiting time which is determined by CPU 42 of fig 3, via timing device 14).

With respect to claim 19, Shinsky teaches the method (as shown fig 4), wherein duration of the one or more waiting times is determined by a reading speed of the computer (the reading time of the computer 200, corresponding to scanner time is determined by CPU 42 of fig 4).

With respect to claim 20, Shinsky teaches the method (as shown fig 4), wherein each period of the shift signal comprises data for a single pixel of the scan line and wherein the period of the shift signal is variable and responsive to a reading speed of the computer (the reading speed of scanner 100 of fig 1, and the processing speed of the host computer is synchronized by CPU 42, based on computer speed so that transfer signal and shift signal of the system can be controlled by host computer 200 of fig 3, col.2, line 20-25).

With respect to claim 21, Shinsky teaches the method (fig 3) wherein the exposure time is variable, (the variability of the brightness and contrast time is controlled by,

controller 322 of fig 4A, in conjunction with scanner and computer 200 via timing chips, by CPU 42 of fig 3).

With respect to claim 22, Shinsky teaches the method (fig 3), wherein the exposure time is defined by the transfer signal such that the exposure time begins when the transfer signal goes high, (the brightness and contrast time is controlled by, controller 322 of fig 4A, in conjunction with scanner and computer 200 via timing chips, by CPU 42 of fig 3).

With respect to claim 23, Shinsky teaches the method (as shown in fig 3) an apparatus, comprising: a scanning device (scanner 100 of fig 3) including an image extraction device, (CCD image sensor 12 of fig 3) wherein the scanning device (fig 100 of fig 3). Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal, a shift signal without storing the data in a memory buffer of the scanning apparatus.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device, (image signal forming 12 of fig 1, the image extraction device CCD image sensor 5 of fig 2, coupled to a micro processor 10 of fig 2, col.2, lines 20-30, and shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image

sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shift register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal, a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 24, Shinsky teaches the method (fig 3), further comprising adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 25, Shinsky teaches the method (fig 3); the method

according to claim 1, wherein the period of the transfer signals comprises a constant period of time, (brightness and contrast controller 322 of fig 4A).

With respect to claim 26, Shinsky teaches the method (fig 3) wherein the exposure time is variable (brightness and contrast controller 322 of fig 4A).

With respect to claim 27, Shinsky teaches the method (fig 3) wherein the dumping (shifting) signal is enabled at a high level, (the level of the brightness and contrast of the image has been controlled by controller 322 of fig 4A).

With respect to claim 28, a method of transferring image information from a scanning apparatus (a camera 10 of fig 1, has no buffer or any memory, see fig 1), the method (as shown in fig 4), decreasing a period of shift signal if the computer (computer 200 of fig 3) uses a first processing speed to process the pixel data or, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold) increasing the period of the shift signal if the computer uses a second processing speed to process the pixel data wherein the computer reads all of the pixel data of the scan line during the a period of the transfer signal and wherein the first processing speed is grater than the second processing seed (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and

analog digital converter circuit 16 of fig 1, which has a determination of adjusting a shift signal via a timing chips 14 of fig 1, col.1, lines 36-40).

***Allowable Subject Matter***

4. Claims 9-15, 29-40 are allowed.

Claims 9-15 are allowed for the reason the prior art searched and of record neither anticipates nor suggests A method of transferring image information from a scanning apparatus, the method comprising: providing a transfer signal to an image extraction device in the scanning apparatus, wherein the scanning apparatus does not include a memory buffer; transmitting pixel data for a scan line from the image extraction device to the computer via shift signal, the shift signal having a cycle time; and changing the cycle time of the shift signal from a first default cycle time to a second different cycle time if the computer processes the pixel data using an actual processing speed that is different than an expected processing speed, the expected processing speed associated with the first default cycle time.

Claims 29-34 are allowed for the reason the prior art searched and of record neither anticipates nor suggests an apparatus, comprising: an image extraction means for a timing output means for outputting a shift signal, the shift the image extraction means initiates transferring portions of the scan line to an external device; and a feedback means for detecting a rate that the external device scan line data and feeding back said detected rate to the timing signal out, wherein the timing signal output means

is configured to vary the processing rate does not correspond with a transfer time for the scan line data.

Claims 35-40 are allowed for the reason the prior art searched and of record neither anticipates nor suggests a scanner, comprising: a light source to illuminate a document supported by a document platform; an image extraction device to provide scan line data according to an exposure time; and signal output circuitry to control transfer of the scan line data from the scanner to an external device, the signal output circuitry operable to: generate a signal having a cycle time, the cycle time of the signal controlling the frequency that the scanner initiates transfer of a portion of the scan line data from the scanner to the external device; and vary the cycle time according to a rate that the external device processes transferred scan line data.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEGUSSIE WORKU whose telephone number is (571)272-7472. The examiner can normally be reached on 9A-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Negussie Worku/

Examiner, Art Unit 2625

/Edward L. Coles/

Supervisory Patent Examiner, Art Unit 2625



